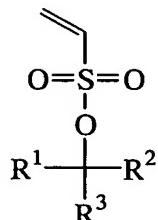


CLAIMS:

1. A sulfonate compound having the following general formula (1):

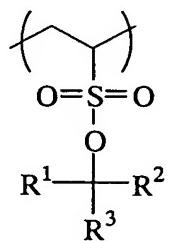


(1)

5

wherein R¹ to R³ each are hydrogen, fluorine or a straight, branched or cyclic alkyl or fluorinated alkyl group of 1 to 20 carbon atoms, at least one of R¹ to R³ contains fluorine, R¹ and R², R¹ and R³, or R² and R³, taken together, may form a ring, each of R¹ to R³ is a straight or branched alkylene or fluorinated alkylene group of 1 to 18 carbon atoms, preferably 1 to 10 carbon atoms, when they form a ring.

- 15 2. A polymer comprising recurring units of the following general formula (2) and having a weight average molecular weight of 1,000 to 500,000,

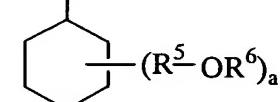
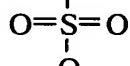
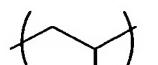


(2)

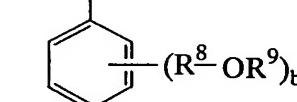
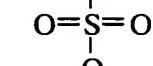
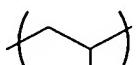
wherein R¹ to R³ each are hydrogen, fluorine or a straight, branched or cyclic alkyl or fluorinated alkyl group of 1 to 20 carbon atoms, at least one of R¹ to R³ contains fluorine, R¹ and R², R¹ and R³, or R² and R³, taken together, may form a ring, each of R¹ to R³ is a straight or branched alkylene or

fluorinated alkylene group of 1 to 18 carbon atoms,
preferably 1 to 10 carbon atoms, when they form a ring.

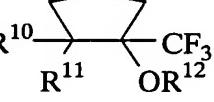
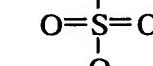
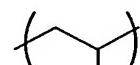
3. The polymer of claim 2, further comprising recurring
5 units of at least one type selected from the following
general formulae (3a) to (3f):



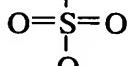
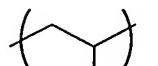
(3a)



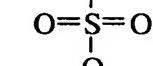
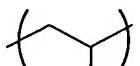
(3b)



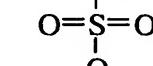
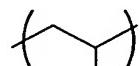
(3c)



(3d)



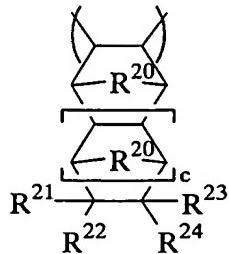
(3e)



(3f)

wherein R^4 , R^5 , R^7 , R^8 and R^{15} each are a single bond or a
10 straight, branched or cyclic alkylene or fluorinated alkylene
group of 1 to 20 carbon atoms, R^6 , R^9 , R^{12} and R^{18} each are
hydrogen or an acid labile group, R^{10} , R^{11} , R^{13} , R^{14} , R^{16} and R^{17}
each are hydrogen, fluorine, a straight, branched or cyclic
alkyl or fluorinated alkyl group of 1 to 20 carbon atoms, at
15 least one of R^{16} and R^{17} contains at least one fluorine atom,
 R^{19} is a straight, branched or cyclic fluorinated alkyl group
of 1 to 20 carbon atoms, "a" and "b" each are 1 or 2.

4. The polymer of claim 2, further comprising recurring units of the following general formula (4):

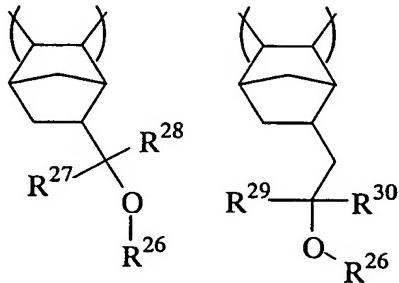


(4)

wherein R²⁰ is a methylene group, oxygen atom or sulfur atom,
5 R²¹ to R²⁴ each are hydrogen, fluorine, -R²⁵-OR²⁶, -R²⁵-CO₂R²⁶ or
a straight, branched or cyclic alkyl or fluorinated alkyl
group of 1 to 20 carbon atoms, at least one of R²¹ to R²⁴
containing -R²⁵-OR²⁶ or -R²⁵-CO₂R²⁶, R²⁵ is a single bond or a
straight, branched or cyclic alkylene or fluorinated alkylene
10 group of 1 to 20 carbon atoms, R²⁶ is hydrogen, an acid
labile group, adhesive group or a straight, branched or
cyclic fluorinated alkyl group of 1 to 20 carbon atoms which
may contain a hydrophilic group such as hydroxyl, and c is 0
or 1.

15

5. The polymer of claim 4 wherein said recurring units of
formula (4) have a structure of the following general formula
(4a) or (4b):



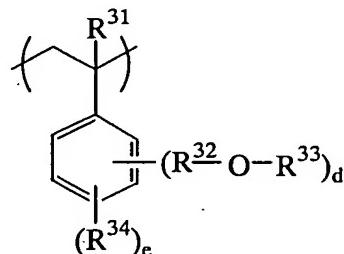
(4a)

(4b)

20 wherein R²⁶ is as defined above, R²⁷ to R³⁰ each are hydrogen,
fluorine or an alkyl or fluorinated alkyl group of 1 to 4

carbon atoms, at least either one of R²⁷ and R²⁸ contains at least one fluorine atom, and at least either one of R²⁹ and R³⁰ contains at least one fluorine atom.

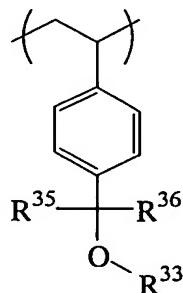
5 6. The polymer of claim 2, further comprising recurring units of the following general formula (5):



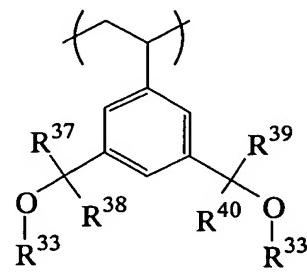
(5)

wherein R³¹ is hydrogen, fluorine or a straight, branched or cyclic alkyl or fluorinated alkyl group of 1 to 20 carbon atoms, R³² is a single bond or a straight, branched or cyclic alkylene or fluorinated alkylene group of 1 to 20 carbon atoms, R³³ is hydrogen or an acid labile group, R³⁴ is fluorine or a straight, branched or cyclic fluorinated alkyl group of 1 to 20 carbon atoms, d is 1 or 2, and e is an integer of 0 to 4, satisfying 1 ≤ d+e ≤ 5.

7. The polymer of claim 6 wherein the recurring units of formula (5) have the following formula (5a) or (5b):



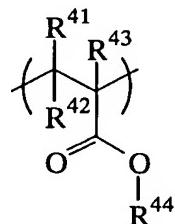
(5a)



(5b)

wherein R³³ is as defined above, R³⁵ to R⁴⁰ each are hydrogen, fluorine or an alkyl or fluorinated alkyl group of 1 to 4 carbon atoms, at least either one of R³⁵ and R³⁶ contains at least one fluorine atom, at least either one of R³⁷ and R³⁸ 5 contains at least one fluorine atom, and at least either one of R³⁹ and R⁴⁰ contains at least one fluorine atom.

8. The polymer of claim 2, further comprising recurring units of the following general formula (6):



(6)

10

wherein R⁴¹ to R⁴³ each are hydrogen, fluorine or a straight, branched or cyclic alkyl or fluorinated alkyl group of 1 to 20 carbon atoms, and R⁴⁴ is hydrogen, an acid labile group, an adhesive group or a straight, branched or cyclic 15 fluorinated alkyl group of 1 to 20 carbon atoms which may contain a hydrophilic group such as hydroxyl.

9. The polymer of claim 8 wherein R⁴³ in formula (6) is trifluoromethyl.

20

10. A resist composition comprising the polymer of claim 2.

11. A chemically amplified positive resist composition comprising

- 25 (A) the polymer of claim 2,
(B) an organic solvent, and
(C) a photoacid generator.

12. The resist composition of claim 11, further comprising 30 (D) a basic compound.

13. The resist composition of claim 11, further comprising
(E) a dissolution inhibitor.

14. A process for forming a resist pattern comprising the
5 steps of:

applying the resist composition of claim 10 onto a
substrate to form a coating,

heat treating the coating and then exposing it to
high-energy radiation in a wavelength band of 100 to 180 nm
10 or 1 to 30 nm through a photomask, and

optionally heat treating the exposed coating and
developing it with a developer.

15. The pattern forming process of claim 14 wherein the
high-energy radiation is an F₂ laser beam, Ar₂ laser beam or
soft x-ray.